



Digital QA – for a modern IoT Analytics Platform in Semi-Conductor Manufacturing Industry

QA
Services

Success Story

Client Status Quo

The client is an advanced semiconductor manufacturing company, developing and supplying wafer fabrication equipment and services globally. Their business operations make the best use of IoT solutions in gathering data points from sensors installed along the process chain. The data is churned using Analytics Solutions resulting in advanced insights for real time monitoring of the equipment and defect predictions and predictive maintenance.

The ecosystem is a visibility into the manufacturing supply chain and operations. With the domain and data intensive nature of the application, the client required a strong QA Partner with specialized testing expertise to test the reliability and scalability.

Project Summary

In a data intensive IoT analytics Application, a specialized QA solution was implemented to test the wide digital dimensions. Test Strategy for validating the integrity of complex algorithms, performance of the data transactions and UI/UX was defined and delivered, achieving maximum test coverage.

Business Requirements

- Set up QA with continuous testing enabled.
- Understand the complex use cases and rich data set in the application to establish a robust QA strategy that validates the data transactions (volume and veracity) in the end-to-end workflow.
- Real time data testing.
- Verify data response & availability due to the large number of sensor interactions.

Solution Highlights

Indium's strong combination of Domain and Technology has laid the strategy for achieving QA at digital speed for this project. The following are the solution

highlights that address thorough validation of application functional stability and relevance of data from the source systems to the dashboards.

- QA set up for Test Data Management, Defect Reporting and Comprehensive Test Artifact Generation.
- Adopted Agile Methodology to streamline challenges in ad-hoc requests and improved coordination between Dev and QA.
- Requirement elicitation decoding the tightly knit big data and IoT use cases and complex algorithms.
- Data Validations under real simulation conditions (Static and Dynamic Value Simulations).
- Test Cases for UI/UX Validations, user interactivity, response times, timeliness of data etc.
- Component Dependent Matrix and Dynamic Regression.

Application

IoT Analytics Platform

Services Offered

Digital QA

Tools

JIRA

Key Highlights

- QA set up for Test Data Management, Defect Reporting and Comprehensive Test Artifact Generation.
- Adopted Agile Methodology to streamline challenges in ad-hoc requests and improved coordination between Dev and QA.

Test Approach



Value Additions

- Advanced Test Strategy focused on Domain Integrity, Referential Integrity, Data Processing rules and Business logic.
- Real-time interactive and deep dive reporting on Data Quality Intelligence metrics.





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